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STATE DOCUMENTS

TRUCK INSPECTION SURVEY

DURING SUMMER OF

1955

JUNE 20 TO AUGUST 27

CONDUCTED AT STATIONS
LOCATED NEAR

BOZEMAN	LIMA
CROW AGENCY	MILES CITY
CULBERTSON	MISSOULA
DRUMMOND	NISSLER
GLENDIVE	SHELBY

JUNE 5, 1956

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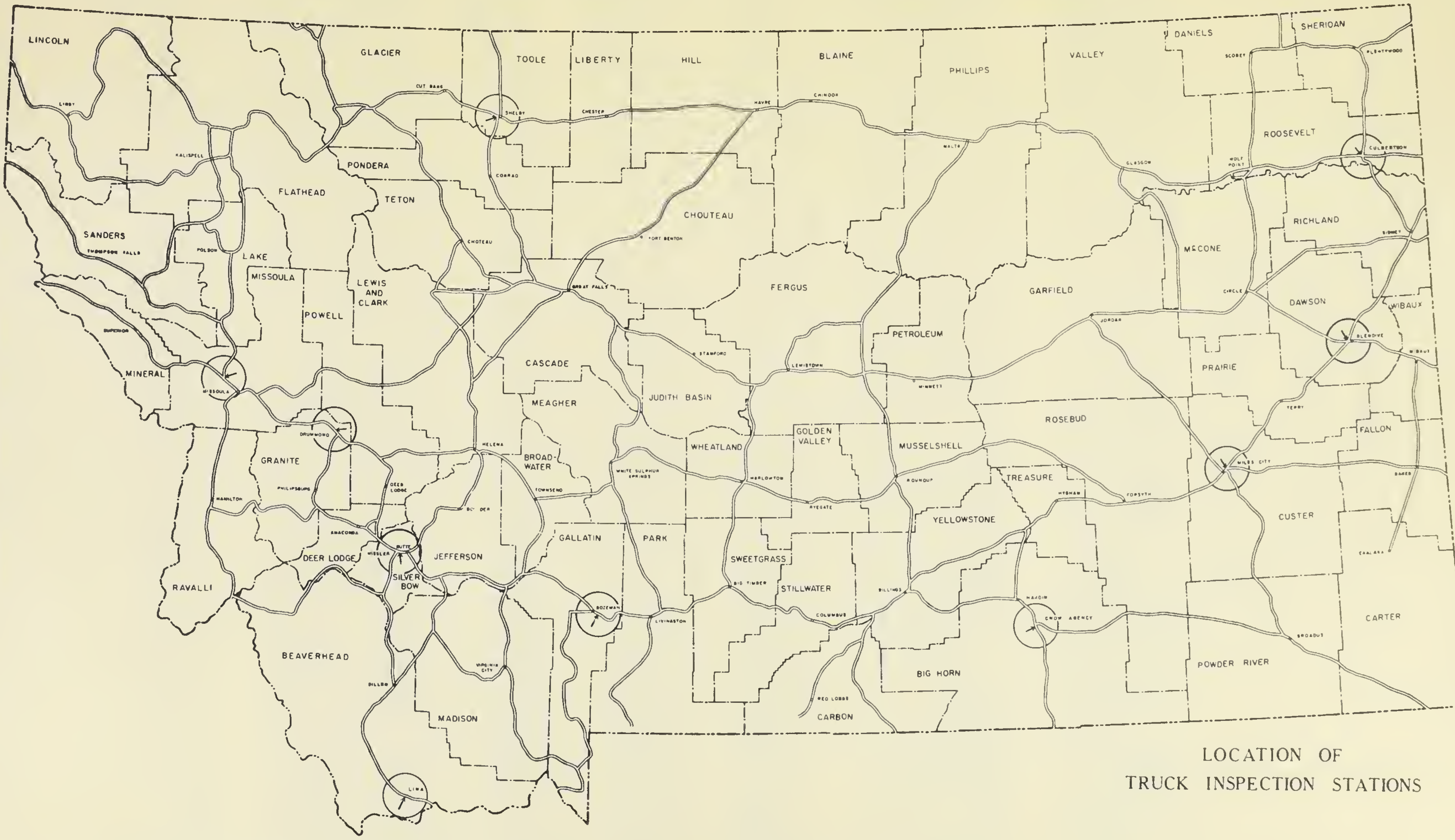

LOCATION OF
TRUCK INSPECTION STATIONS

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MONTANA STATE HIGHWAY COMMISSION

PLANNING SURVEY DIVISION

TRUCK INSPECTION SURVEY OF 1955

During the summer of 1954, a truck inspection survey was conducted near the towns of Lima and Saltese for the purpose of determining various characteristics concerning trucks and trailers entering and leaving the State. This survey produced some worthwhile statistics regarding vehicular operating weights, state of domicile, motor fuel used, origins and destinations, violations and other features.

It was decided that the survey should be repeated during the summer of 1955 in order to obtain additional and supplementary data. The number of stations for the survey was increased to ten and included the following points: Drummond, Missoula, Bozeman, Lima, Nissler, Shelby, Culbertson, Glendive, Miles City, and Crow Agency. All of the stations with the exception of Culbertson, were located at points on the Interstate System. This system is a network of highways which are used extensively by the larger trucks.

The survey began at Drummond on June 20 and was continued for a period of one week (8 A.M. Monday to 8 A.M. Saturday) at each station. The itinerary ended at Crow Agency on August 27. The crew consisted of seven employees of the Planning Survey Division with the occasional assistance of a patrolman.

Special interview forms were prepared for this survey and the employees were schooled at a preliminary operation near Helena before leaving for the field stations. The survey was designed to obtain data regarding the larger vehicles, and for this reason, the results of the survey do not reflect proportionate data for the smaller, single-unit trucks.

The results of the survey have been summarized in a series of tables which follow this introductory explanation. Reference should be made to these tables for full details, but some of the principal findings are presented at this point.

Trucks domiciled in other states amounted to 48% of the total trucks inspected during the survey. This proportion is probably somewhat high in comparison with truck traffic on all highways in the State because of the fact that the stations were concentrated on the Interstate System. The Culbertson station showed the highest proportion of out-of-state trucks, which was 58% of the total number of trucks inspected at that station. The Shelby station, an interior point, had the lowest proportion of out-of-state trucks, amounting to 29% of the vehicles inspected there.

The Lima station had the lowest volume of truck traffic, averaging 2.21 trucks per hour. The Drummond station had the highest average, amounting to 7.20 vehicles per hour. A summary of all stations showed that the peak hour for truck traffic occurred between 10 and 11 A.M. The low point occurred between 2 and 3 A.M.

The state of domicile for trucks ranked as follows:

1. Montana
2. Washington
3. Minnesota
4. North Dakota
5. Oregon
6. Indiana
7. Alberta
8. Idaho
9. California
10. Texas

Single-unit trucks amounted to 29% of the total trucks inspected at all stations. Tractor and semi-trailer combinations amounted to 59% of the total, and truck and full trailers amounted to 11% of the total. About 1% of the trucks were not classified. There was a higher proportion of single-unit trucks among the Montana-domiciled vehicles than occurred in the vehicles which were domiciled in other states.

General freight was the principal commodity hauled by all vehicles, both Montana and out-of-state. Petroleum ranked second among commodities hauled by Montana vehicles. Household goods occupied second place in commodities hauled by out-of-state vehicles. Empty vehicles amounted to about 23% of the total number of vehicles inspected.

Insofar as motor fuel is concerned, 54% of the trucks used gasoline, 44% used diesel, 0.3% used liquified petroleum gasses, and the type of fuel was not reported for about 1.5% of the trucks.

About 14% of the out-of-state trucks were domiciled in states which did not have a reciprocity agreement with Montana. Full reciprocity on license plates and the GVW tax applied to about 55% of the trucks. About 24% of the trucks were part of prorated fleets.

About 21% of the out-of-state trucks and about 23% of the out-of-state trailers were traveling in the State under conditions which would require the purchase of a trip permit. Potential collections on trip permit sales amounted to $5,942.50.

Violations of laws applying to highway transportation amounted to 0.37 violations per vehicle inspected among the Montana-domiciled vehicles. Violations among the out-of-state vehicles amounted to 0.14 violations per vehicle. The average for all vehicles (trucks and trailers) amounted to 0.25 violations per vehicle. The number of separate violations amounted to as much as 6 violations per vehicle in a few instances; however, single violations were predominant, amounting to 65% of the total. The greatest number of violations resulted from the lack of or improper status of registration cards.

In reviewing the following tables, it should be understood that these data apply to vehicles which are predominantly in the higher weight categories and that the information is not necessarily representative of general truck operations throughout the State.

TABLE NO. 1

DATA BY STATIONS AND STATE OF DOMICILE OF TRUCK

		MONTANA VEHICLES			OUT OF STATE VEHICLES			ALL VEHICLES		
STATION NUMBER	LOCATION	ENTERING STATE	LEAVING STATE	ALL IN STATE	ENTERING STATE	LEAVING STATE	ALL IN STATE	MONTANA VEHICLES	OUT OF STATE VEHICLES	TOTAL
1	Drummond	35	61	315	89	303	61	411	453	864
2	Missoula	45	65	261	137	275	20	374	429	803
3	Bozeman	23	70	304	63	154	39	397	256	653
4	Lima	62	68	17	58	60		147	118	265
5	Nissler	41	65	212	72	174	20	318	266	584
6	Shelby	6	11	239	40	50	16	256	106	362
7	Culbertson	26	38	91	111	99	2	155	212	367
8	Glendive	51	77	220	186	134	21	348	341	689
9	Miles City	40	38	162	124	94	12	240	230	470
10	Crow Agency	36	59	76	119	112	1	171	232	403
TOTAL		365	552	1897	999	1455	192	2817	2643	5460

TABLE NO. 2

DATA BY STATIONS AND TYPE OF TRIP

STATION NUMBER	LOCATION	PERIOD OF OPERATION	NO. OF HOURS	NUMBER OF VEHICLES AND TYPE OF TRIP				NUMBER OF VEHICLES PER HOUR
				ENTERING STATE	LEAVING STATE	ALL IN STATE	TOTAL	
1	Drummond	June 20 to June 25	120	124	364	376	864	7.20
2	Missoula	June 27 to July 2	120	182	340	281	803	6.69
3	Bozeman	July 5 to July 9	96	86	224	343	653	6.80
4	Lima	July 11 to July 16	120	120	128	17	265	2.21
5	Nissler	July 18 to July 23	120	113	239	232	584	4.87
6	Shelby	July 25 to July 30	120	46	61	255	362	3.02
7	Culbertson	August 1 to August 6	120	137	137	93	367	3.06
8	Glendive	August 8 to August 13	120	237	211	241	689	5.74
9	Miles City	August 15 to August 20	120	164	132	174	470	3.92
10	Crow Agency	August 22 to August 27	120	155	171	77	403	3.36
TOTAL			1176	1364	2007	2089	5460	4.64

TABLE NO. 3

HOURLY TRAFFIC PATTERN FOR ALL STATIONS

HOUR	NO. OF VEHICLES	PERCENT OF DAILY TOTAL	HOUR	NO. OF VEHICLES	PERCENT OF DAILY TOTAL
A.M.			P.M.		
0 to 1	136	2.49	0 to 1	253	4.63
1 to 2	142	2.60	1 to 2	272	4.98
2 to 3	118	2.16	2 to 3	298	5.46
3 to 4	126	2.31	3 to 4	272	4.98
4 to 5	145	2.66	4 to 5	318	5.82
5 to 6	184	3.37	5 to 6	274	5.02
6 to 7	187	3.43	6 to 7	285	5.22
7 to 8	228	4.18	7 to 8	179	3.28
8 to 9	312	5.71	8 to 9	206	3.77
9 to 10	330	6.04	9 to 10	197	3.61
10 to 11	368	6.74	10 to 11	154	2.82
11 to 12	306	5.60	11 to 12	170	3.12
			TOTALS	5460	100.00

TABLE NO. 4

STATE OF DOMICILE OF TRUCKS

STATE	NUMBER OF VEHICLES	PERCENT OF TOTAL	RANK
Alabama	11	0.20	28
Arizona	2	0.04	39
Arkansas	7	0.13	31
California	123	2.25	9
Colorado	38	0.70	19
Delaware	3	0.05	37
Dist. of Columbia	3	0.05	38
Florida	5	0.09	33
Georgia	1	0.02	45
Idaho	135	2.47	8
Illinois	17	0.31	25
Indiana	147	2.70	6
Iowa	48	0.88	17
Kansas	35	0.64	21
Kentucky	1	0.02	46
Louisiana	1	0.02	47
Maine	1	0.02	48
Maryland	2	0.04	40
Massachusetts	1	0.02	49
Michigan	31	0.57	23
Minnesota	311	5.69	3
Mississippi	2	0.04	41
Missouri	36	0.66	20
MONTANA	2817	51.60	1
Nebraska	62	1.13	15
Nevada	9	0.16	30
New Jersey	4	0.07	34
New Mexico	7	0.13	32
New York	10	0.18	29
North Dakota	285	5.23	4
Ohio	13	0.24	26
Oklahoma	75	1.37	14
Oregon	189	3.46	5
Pennsylvania	11	0.20	27
South Carolina	1	0.02	50
South Dakota	40	0.73	18
Tennessee	2	0.04	42
Texas	86	1.57	10
Utah	58	1.06	16
Virginia	2	0.04	43
Washington	377	6.90	2
West Virginia	2	0.04	44
Wisconsin	86	1.57	11
Wyoming	84	1.54	12
Alberta	136	2.50	7
British Columbia	84	1.54	13
Saskatchewan	4	0.07	35
Other Canadian	19	0.35	24
Alaska	3	0.05	36
Unknown	33	0.60	22
TOTALS	5460	100.00	

TABLE NO. 5

TYPE OF VEHICLE AND DOMICILE OF TRUCK

TYPE OF VEHICLE	MONTANA TRUCKS		OUT OF STATE TRUCKS		ALL TRUCKS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
2 Axle Single Unit	1001	35.53	447	16.91	1448	26.52
3 Axle Single Unit	102	3.62	58	2.20	160	2.93
Subtotal - Single Unit	1103	39.15	505	19.11	1608	29.45
2 Axle Tractor & 1 Axle Semitrailer	256	9.09	663	25.09	919	16.83
2 Axle Tractor & 2 Axle Semitrailer	218	7.74	348	13.17	566	10.37
3 Axle Tractor & 1 Axle Semitrailer	8	0.28	11	0.41	19	0.35
3 Axle Tractor & 2 Axle Semitrailer	871	30.92	849	32.12	1720	31.50
Subtotal - Semitrailer Combinations	1353	48.03	1871	70.79	3224	59.05
2 Axle Truck & 2 Axle Full Trailer	36	1.28	29	1.10	65	1.19
2 Axle Truck & 3 Axle Full Trailer			2	0.08	2	0.04
3 Axle Truck & 2 Axle Full Trailer	292	10.37	82	3.10	374	6.85
3 Axle Truck & 3 Axle Full Trailer	23	0.82	119	4.50	142	2.60
Subtotal - Full Trailer Combinations	351	12.47	232	8.78	583	10.68
Unknown	10	0.35	35	1.32	45	0.82
TOTALS	2817	100.00	2643	100.00	5460	100.00

TABLE NO. 6

COMMODITY CARRIED AND DOMICILE OF TRUCK

COMMODITY CARRIED	MONTANA TRUCKS		OUT OF STATE TRUCKS		ALL TRUCKS	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Farm Produce	225	7.99	166	6.28	391	7.16
Livestock	103	3.66	41	1.55	144	2.64
Beverages	87	3.09	7	0.26	94	1.72
Machinery	186	6.60	196	7.42	382	7.00
Processed Foods	207	7.35	149	5.64	356	6.52
General Freight	518	18.39	650	24.59	1168	21.39
Petroleum Products	300	10.65	68	2.57	368	6.74
Cement	45	1.60	17	0.64	62	1.14
Household Goods	69	2.45	262	9.92	331	6.06
Automobiles	56	1.99	225	8.52	281	5.15
Logs or Lumber	159	5.64	44	1.66	203	3.71
Other Commodities	253	8.98	182	6.89	435	7.97
Empty	609	21.61	636	24.06	1245	22.80
TOTALS	2817	100.00	2643	100.00	5460	100.00

TABLE NO. 7

COMMON CARRIER STATUS

TYPE OF CARRIER	MONTANA VEHICLES	OUT OF STATE VEHICLES	ALL VEHICLES
Private Carrier	1332	750	2082
Common Carrier	816	1172	1988
Contract Carrier	90	113	203
Exempt	50	73	123
Undetermined	529	535	1064
TOTALS	2817	2643	5460

MRC PERMIT STATUS

PERMIT STATUS	MONTANA VEHICLES	OUT OF STATE VEHICLES	ALL VEHICLES
No permit required	1373	810	2183
Permit required but not obtained	65	225	290
Permit required and obtained	804	1007	1811
Undetermined	575	601	1176
TOTALS	2817	2643	5460

TABLE NO. 8

MOTOR FUEL USED AND PERMIT STATUS

TYPE OF FUEL USED	MONTANA VEHICLES	OTHER VEHICLES	ALL VEHICLES
GASOLINE	1557	1388	2945
DIESEL			
No Permit	100	150	250
Permit Satisfactory	735	637	1372
Undetermined	374	422	796
TOTAL DIESEL	1209	1209	2418
LIQUIFIED PETROLEUM GASSES			
No Permit	6	1	7
Permit Satisfactory	3	1	4
Undetermined	5	1	6
TOTAL LPG	14	3	17
FUEL TYPE NOT REPORTED	37	43	80
TOTAL	2817	2643	5460

DRIVER'S LICENSE STATUS

LICENSE STATUS	MONTANA VEHICLES	OTHER VEHICLES	ALL VEHICLES
No Driver's License	46	22	68
Has Montana License	2247	404	2651
Out of State License	437	2162	2599
Undetermined	87	55	142
TOTAL	2817	2643	5460

TABLE NO. 9

AVERAGE VEHICULAR OPERATING WEIGHTS

TYPE OF VEHICLE	NUMBER OF VEHICLES	TRUCK WEIGHTS			TRAILER WEIGHTS			GRAND TOTAL
		FRONT AXLE	REAR AXLE	TOTAL	FRONT AXLE	REAR AXLE	TOTAL	
2 Axle Single Unit	1448	2406	6394	8999				8999
3 Axle Single Unit	160	4788	16425	21213				21213
Subtotal - Single Unit	1608	2643	7572	10215				10215
2 Axle Tractor & 1 Axle Semitrailer	919	3521	8921	12442		8528	8528	20970
2 Axle Tractor & 2 Axle Semitrailer	566	5551	12205	17756		18332	18332	36088
3 Axle Tractor & 1 Axle Semitrailer	19	3263	10053	13316		7000	7000	20316
3 Axle Tractor & 2 Axle Semitrailer	1720	7327	21227	28554		20330	20330	48884
Subtotal - Semitrailer Combinations	3224	5907	16069	21976		16537	16537	38513
2 Axle Truck & 2 Axle Full Trailer	65	6185	11523	17708	10523	10692	21215	38923
2 Axle Truck & 3 Axle Full Trailer	2	4500	12500	17000	4000	4500	8500	25500
3 Axle Truck & 2 Axle Full Trailer	374	7853	24618	32471	12553	13904	26457	58928
3 Axle Truck & 3 Axle Full Trailer	142	6958	19049	26007	9345	10254	19599	45606
Subtotal - Full Trailer Combinations	583	7437	21760	29197	11482	12624	24106	53303
Unknown	45	- -	- -	- -	- -	- -	- -	- -
TOTALS	5460	- -	- -	- -	- -	- -	- -	- -

Note: Tandem rear axles are considered as one axle in this table

TABLE NO. 10

RECIPROCITY STATUS OF VEHICLES WITH OUT OF STATE DOMICILE

RECIPROCITY STATUS	TRUCKS	TRAILERS
No reciprocity	383	348
Has Montana license plate	24	26
Reciprocity on license plate	60	32
Reciprocity on license plate and G.V.W.	1458	1020
Part of prorated fleet	627	669
Caravan on new vehicles	63	20
Not reported	28	23
TOTALS	2643	2138

181, or 6.42%, of the Montana-domiciled trucks were part of prorated fleets.

131, or 7.69%, of Montana-domiciled trailers were part of prorated fleets.

212, or 12.44%, of the Montana-domiciled trucks were pulling out of state trailers.

89, or 4.23%, of the out of state trucks were pulling Montana trailers.

TABLE NO. 11

REASONS FOR TRIP PERMITS FOR OUT OF STATE VEHICLES

	NUMBER OF VEHICLES					
	TRUCKS		TRAILERS		ALL VEHICLES	
REASON FOR TRIP PERMIT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
No reciprocity - general	421	15.93	335	15.67	756	15.82
No reciprocity - dealer's plates	8	0.30	7	0.33	15	0.32
No reciprocity - house trailer sale	2	0.08	2	0.09	4	0.08
Intransit plates - used cars	1	0.04			1	0.02
Improper registration	60	2.27	58	2.71	118	2.47
Fleet vehicle not prorated	52	1.97	72	3.37	124	2.59
Nonresident - excess weight	14	0.53	9	0.42	23	0.48
Nonresident - special weight permit	2	0.08	1	0.05	3	0.06
Nonresident - expired license	5	0.18	8	0.37	13	0.27
Subtotal	565	21.38	492	23.01	1057	22.11
No permit required	2078	78.62	1646	76.99	3724	77.89
GRAND TOTAL	2643	100.00	2138	100.00	4781	100.00

POTENTIAL FEE COLLECTIONS FOR TRIP PERMITS ON OUT OF STATE VEHICLES

	TYPE OF TRIP PERMITS					
	TRUCKS		TRAILERS		ALL VEHICLES	
TYPE OF PERMIT	NUMBER	AMOUNT	NUMBER	AMOUNT	NUMBER	AMOUNT
Trips up to 200 miles ($5.00)	51	$255.00	35	$175.00	86	$430.00
Trips up to 400 miles ($7.50)	66	495.00	49	367.50	115	862.50
Trips over 400 miles ($10.00)	253	2,530.00	212	2,120.00	465	4,650.00
TOTALS	370	$3,280.00	296	$2,662.50	666	$5,942.50

TABLE NO. 12

SUMMARY OF VIOLATIONS

TYPE OF VIOLATION	MONTANA VEHICLES		OTHER VEHICLES		ALL VEHICLES	
	VIOLATIONS	PERCENT	VIOLATIONS	PERCENT	VIOLATIONS	PERCENT
Registration card	650	38.92	166	24.56	816	34.78
License plate	20	1.20	29	4.29	49	2.09
GVW markings higher than reg. card	213	12.75	44	6.51	257	10.95
Weight higher than reg. card	149	8.92	43	6.36	192	8.19
Weight higher than GVW markings	166	9.94	43	6.36	209	8.90
Overloaded front axle	6	0.36	3	0.44	9	0.38
Overloaded rear axle	127	7.60	46	6.80	173	7.37
Overloaded total weight	72	4.31	51	7.54	123	5.25
Height			1	0.15	1	0.04
Width	8	0.48	8	1.18	16	0.68
Length	1	0.06	4	0.59	5	0.21
Fuel permit	89	5.33	49	7.25	138	5.89
MRC permit	63	3.77	70	10.36	133	5.67
Driver's license	39	2.34	14	2.07	53	2.26
Other	67	4.02	105	15.54	172	7.34
TOTAL	1670	100.00	676	100.00	2346	100.00
Violations covered by permit	24		54		78	
Violations per vehicle (trucks & trailers)	0.37		0.14		0.25	

MULTIPLICITY OF VIOLATIONS

VIOLATIONS PER VEHICLE OR COMBINATION	MONTANA VEHICLES		OTHER VEHICLES		ALL VEHICLES	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
One violation	624	69.80	447	58.43	1071	64.55
Two violations	154	17.23	209	27.32	363	21.88
Three violations	76	8.50	67	8.76	143	8.62
Four violations	24	2.68	25	3.27	49	2.96
Five violations	15	1.68	11	1.44	26	1.56
Six violations	1	0.11	6	0.78	7	0.43
Subtotal	894	100.00	765	100.00	1659	100.00
No violations	1923		1878		3801	
TOTALS	2817		2643		5460	